


METHOD FOR MEASURING MOLTEN LAYER THICKNESS OF MOLD POWDER ON MOLTEN STEEL SURFACE IN MOLD OF CONTINUOUS CASTING

Patent Number: JP2108444
Publication date: 1990-04-20
Inventor(s): ITOYAMA SEIJI; others: 03
Applicant(s): KAWASAKI STEEL CORP
Requested Patent:  JP2108444
Application Number: JP19880260670 19881018
Priority Number(s):
IPC Classification: B22D11/16; B22D11/07; B22D11/10
EC Classification:
Equivalents:

Abstract

PURPOSE:To measure molten layer thickness of mold powder at good accuracy by detecting molten steel surface level with a vortex flow type range finder, removing a part of the mold powder which is not yet melted, detecting the molten layer surface level of the mold powder with a laser beam type range finder and calculating the difference between both.

CONSTITUTION:In inner part of a mold 1, the surface at meniscus 2a of the molten steel 2 is covered with the molten mold powder 3, and further the upper face thereof is covered with the mold powder 4 which is not yet melted. The vortex flow type range finder 5 detects the level to the meniscus surface 2a of the molten steel 2 under non-contacting condition. The laser beam type range finder 6 detects the level to the mold powder molten layer 3 under non-contacting condition. At the time of irradiating the molten layer 3 with the laser beam while injecting gas from a gas injection chamber 7 on the surface of the mold powder 4 which is not yet melted through a gas injection hole 7b, the laser beam detects the molten layer 3 surface level of the mold powder through an aperture part 8a and the gas injection hole 7b. A computing element 9 calculates the level signal detected with both range finders. By this method, the molten layer thickness of the mold powder can be stably measured at good accuracy.

Data supplied from the esp@cenet database - I2

BEST AVAILABLE COPY